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ABSTRACT

This report is in response to an order of the Washington State Legislature which directed the state superintendent of public instruction to: (1) define environmental literacy; (2) assess the status and needs of environmental education in Washington and make appropriate recommendations based on that survey data; and (3) develop and submit a report to the 1986 Special Legislature Session. Included in the document are descriptions of the activities of the environmental education task force assigned to complete the above tasks. The recommendations formulated by the task force involve broadening the provisions of the existing state regulations to include a definition of environmental literacy, and to extend the state environmental education requirements to include the elementary grades. In addition, revisions of environmental education legislation, funding and guidelines are proposed. Included in the appendices are the survey instrument used and the survey responses and analysis. (TW)

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STATUS AND NEEDS ASSESSMENT OF ENVIRONMENTAL EDUCATION IN WASHINGTON - 1986

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SPI

DR. FRANK B. BROUILLET

Superintendent of Public Instruction

January 24, 1986

TO: Members, Senate Education Committee
Members, Senate Natural Resources Committee
Members, House Education Committee
Members, House Natural Resources Committee
Members, House Environmental Affairs Committee
Members, Senate Parks and Ecology Committee

FROM: Frank B. Brouillet

RE: ENVIRONMENTAL EDUCATION TASK FORCE

The 1985 Regular Session of the Washington State Legislature requested that my office form a task force to:

1. Define environmental literacy;

2. Assess the status and needs of environmental education in Washington, and make appropriate recommendations based on that survey data, and

3. Develop and submit a report to the 1986 Special Legislative Session.

This past year has seen unprecedented cooperation between state agencies and the private sector in and about environmental education. Given the usual intensity of feelings and debate about difficult environmental issues facing our society, the Task Force was unusually cooperative, supportive and productive as regards the needs in our state for environmental education. Environmental education could not/cannot fare as well as it must had it not been for the informed participation of and involvement by the Task Force representatives named in this report.

The message they have formulated is that we need a continued and enhanced collaborative investment in environmental education. The message continues, and indicates that this collaborative support is needed for reasons related to economic good sense and continued environmental quality.

Old Capitol Building. FG-11. Olympia. Washington 98504

It is my recommendation that the Legislature respond positively to the recommendations in this report. The education, conservation, industrial and resource management communities all anticipate the continuation of very stringent budgets for the forseeable future causing a consolidation of mutual interests and concerns and showing clearly that constructive activity can result within those limitations pursuant to the ends of a quality environment.

The three tasks noted above are completed with this report, and I am pleased to submit it to you.

FBB:sg

SPI
DR. FRANK B. BROUILLET Superintendent of Public Instruction Old Capitol Building, FG-11, Olympia, WA 98504

STATUS AND NEEDS ASSESSMENT OF ENVIRONMENTAL EDUCATION IN WASHINGTON

A report by the
Washington Superintendent of
Public Instruction

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January, 1986

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REPORT SUMMARY

With the pioneering work done in the 1976 Environmental Education Guidelines in mind the task force developed the following definition of environmental literacy, in consultation with organizations, agencies and professionals active in the field.

AN ENVIRONMENTALLY LITERATE WASHINGTON CITIZEN will:

I. **have a basic understanding of the components of the environment and their interactions.**
This understanding includes knowledge of:
--natural resources, wildlife and methods of their conservation;
--principles of ecology, such as biological and geological organization, natural cycles, energy relationships, population dynamics and change;
--the intensifying human impact on the natural world.

II. **value the environment as the basis of our physical lives, our economy and our emotional well-being.**
This valuing includes awareness that:
--human health depends on the health of the environment;
--human wealth springs ultimately from the creative use and aesthetic appreciation of natural resources;
--contemplation of nature's intricacy and beauty brings intellectual fascination, tranquility and creative inspiration.

III. **understand that personal choice affects environmental quality.**
This understanding includes knowing ways individuals can take responsibility for maintaining envirionmental health.

IV. **know how citizens can act cooperatively on behalf of the environment.**
This knowledge includes the willingness to participate in community and political resolution of environmental issues.

Recognizing the need to better prepare Washington's public school students to take an active part in dealing with society's most pressing environmental issues, the 1985 Legislature directed the Superintendent of Public Instruction to appoint a task force to:

1) Define an "environmentally literate Washington citizen," providing more concrete direction for local school districts' environmental education programs; and

2) Assess the status and needs of environmental education in our public schools.

In 1976 the State Board of Education adopted WAC 180-56-026, which, among other things, required that each school district offer environmental education to its secondary school students. The regulation made no reference to environmental education in the primary grades, and did not define environmental education. The lack of a clear definition has proved awkward for local educators, who have had few standards against which to judge their districts' environmental programs.

The task force conducted a survey of Washington school districts, which revealed an apparent lack of emphasis on preparing students to help their society deal actively with its highest-priority environmental issues, such as toxic chemicals, waste management, urban and global environmental problems and economics.

Survey respondents reported that their districts' critical needs for environmental education are: funds, curriculum materials and teacher training. Evaluations made outside of the survey clearly indicate that existing Environmental Education (EE) programs used most frequently by the schools and developed by the Superintendent of Public Instruction (SPI) and the state natural resource agencies, are of uniformly high quality.

The task force recommends that:

1) Provisions of WAC 180-56-230 should be broadened to include a definition of environmental literacy, such as the one developed for this report, in order that local schools will have a more accurate understanding of environmental education, which will in turn be reflected in their written policies and student learning objectives;

2) Provisions of RCW 28A.05.010 should be broadened to require environmental education to be offered to elementary students.

3) Legislation should be adopted to formalize cooperation among environmental educators at the state and local levels, in both the public and private sectors, in the development of effective environmental education programs.

4) Funding should be provided to maximize the impact of existing environmental education curriculum materials and teacher training programs.

5) The state's environmental education guidelines should be updated to reflect the findings of the present survey.

6) The State Board of Education should be charged to mandate the inclusion of environmental education for initial and continuing teacher certification.

A BRIEF PERSPECTIVE
ON ENVIRONMENTAL EDUCATION
IN WASHINGTON

A majority of Americans hold the opinion that current laws to protect the environment do not go far enough, according to the October 14, 1985, issue of Time.

> A poll taken last month for Time by Yankelovich, Skelly and White, Inc., shows that 79 percent of Americans say that "not enough" has been done to clean up toxic waste sites.
>
> More surprisingly, when asked, "would you be willing to pay higher state and local taxes to fund cleanup programs in your area?" 64 percent answered "yes," 34 percent said "no" and 2 percent were unsure.
>
> This attitude toward the slow pace of dump cleanups is part of a broad public sense that Government is failing to respond adequately to environmental concerns in general. Some 45 percent of those polled said that current laws to protect the environment do not go far enough, while 29 percent are satisfied with them and 16 percent think they go "too far." Fully 63 percent feel that even the inadequate governmental protections are not being enforced strictly enough by the agencies involved.

Environmental matters have a special importance to Washington's citizens, whose livelihoods depend so heavily, directly or indirectly, on the use of natural resources. Interest in the environment is not just an economic one, either. A 1980 survey, for instance, revealed that 80 percent of Washington's citizens enjoy some form of wildlife-related recreation.

Society has matured in its attitudes toward the environment since the 1960s, when it seemed that doomsday prophets predicted imminent disaster from every newspaper and television talk show. This is not to say that the prospect of environmental disaster has lessened. If anything, events since the sixties--gasoline shortages, toxic waste leaks and Third World famines, to name a few--have proven that many of the worst fears have been well-grounded. And, as highlighted by the surveys mentioned above, the general public is still acutely aware that these problems still exist.

But today, like their counterparts around the country, Washingtonians in general have advanced beyond the early stages of awareness, concern and occasional near-panic about environmental problems. Most take a more pragmatic stance, stressing constructive, well-considered solutions, rather than alarmist rhetoric. The emphasis now is on the enhancement of individual liberty, quality and diversity of lifestyles, as well as economic stability, within safe environmental limits.

The solution to Washington's environmental quality and natural resource-related problems depends largely on how well citizens understand them. Leaders in education, industry and state government, among others, agree

that one of the best ways to provide this understanding is through the school system. Washington's public schools can help citizens, youth and adults alike, become more sensitive to their environment, better able to recognize environmental problems, more sophisticated in the use of the problem-solving skills needed to solve them and more willing to work toward their solution.

ROOTS

The roots of environmental education in Washington reach back as far as the 1920s, to the first outdoor education programs offered by many of the state's public schools. These early programs, which continued through the 1950s, focused on such outdoor-appreciation activities as camping, hiking, woodcraft and nature study.

By the mid-1960s the environmental movement had started gaining momentum throughout the country. Public and private funds became increasingly available for environmental education. Many teachers who had been instrumental in conducting the earlier outdoor schools also led the way during the 1970s in developing programs dealing with such necessary and timely topics as ecology, population, waste disposal and fuel supplies.

1976 was a landmark year for environmental education in Washington. That year, the SPI's Environmental Education Office produced a report entitled, Environmental Education in the State of Washington: A State of the Art Report. The report identified the SPI's EE priorities, specifically in the support of educational efforts dealing with energy and urban land use, and in the operation of the Cispus and Whidbey Island environmental centers. It also included an inventory of major EE programs established by local school districts.

Close working relationships had developed, the report noted, among educators and representatives of the SPI's Environmental Education Office, state and federal natural resource agencies, conservation associations, environmental studies programs at state colleges and universities, and business and industry. The report further indicated that,

> Interdependency is surely the key term for the successful functioning of our public schools.... no educational program can stand independent of those components of the real world.... Frustrating and perplexing as this involvement may be, the results are tangible, and the benefits for students and teachers bring another dimension of reality to the education process....
>
> What is most obvious, is that the students of the Common Schools are being prepared realistically to face their roles as citizens in a democracy that requires informed decision-making.

That same year the State Board of Education adopted WAC 180-56-026, which, among other things, required that each school district make environmental education available to its secondary school students. It was a step toward making a basic knowledge of the environment a part of every Washington school student's background. However, the regulation said nothing about

environmental education in the primary grades, nor did it define "environmental education." The lack of a clear definition proved awkward for educators, especially at the local level, because they had no standards against which to judge their districts' EE courses.

To help overcome the ambiguity about what constitutes environmental education and provide school districts with a basis for their local EE programs, the SPI's office published the Conceptual Guide to Environmental Education in Washington State Secondary Schools: An Invitation and Guide to Implementation. It was published in 1976 to provide teachers, curriculum supervisors, principals and district superintendents with suggested goals and objectives for the teaching of environmental concepts to their students.

The EE Guidelines, as they came to be known, stressed integration of environmental concepts into traditional secondary school subjects--in English and the arts, for example, as well as in science and social studies. The document pointed out that most subjects taught at the secondary level have important environmental content and suggested ways in which teachers could incorporate EE into the teaching of their respective subjects. The following quotes from the Environmental Education Guidelines illustrate this strategy;

> Doing so, will strengthen the overall quality of your program--not just its environmental impact. We believe that multidisciplinary exposure to environmental content is essential to a student's understanding of the environment.
>
> . . . to improve environmental education throughout an entire district does not necessarily mean there is a need to rush out and create new staff positions and programs. Rather, it requires that all staff become aware of the opportunity they have for providing conscious, planned environmental education within the existing program . . . .
>
> This document is intended to stimulate environmental consciousness so that any student--without necessarily any exposure to a class labeled 'Environment'--will graduate having achieved all four goals described below . . . .
>
> 1) **AN ACCURATE AND COMPREHENSIVE GROUNDING IN HOW THE ENVIRONMENT WORKS;**
>
> 2) **EXPERIENCE IN VALUING ENVIRONMENTAL QUALITY;**
>
> 3) **EXPERIENCE IN HOW PERSONAL CHOICES AND ACTIONS AFFECT ENVIRONMENTAL QUALITY;**
>
> 4) **EXPERIENCE IN METHODS OF ENACTING COMMUNITY RESPONSIBILITY.**

The economic advantages of the so-called "integrated approach" became obvious to school districts that adopted it, once they found that they could institute an exemplary EE program at little or no extra cost.

Also in 1976, SPI published its "Five Year Plan" for environmental education programs, 1977-1982. The plan included interdisciplinary course goals in math, science, social studies, language arts and the arts; set major learning and program objectives for Washington; and called for development of learning materials, teacher training and student instruction.

The plan identified priority topics, based on major environmental concerns, including energy, water quality, urban land use, population dynamics and transportation. It listed a variety of programs to be carried out at Cispus and the Northwest Environmental Education Center, intended both to serve as model school programs and to help teachers and students set up community action programs.

The SPI's Environmental Education Office devoted increasing time and resources to development and dissemination of curriculum materials, as well as training and program coordination for teachers, state natural resources agencies, and industry. But those efforts were sharply curtailed when SPI sustained budget cuts that ultimately reduced support for its EE programs to one-third of its former level. In 1981 the state legislature discontinued funding for SPI operations at the Cispus Environmental Center. Funds have been partially restored in order to assist the Association of Washington School Principals to operate the Cispus Environmental Center.

Yet in 1985, despite pervasive budget cuts, it is apparent that at least some Washington school districts have managed to establish the kind of EE program outlined in the Environmental Education Guidelines and five year plan. Determining to what degree and with what success these programs have been implemented was one of the objectives of the present study.

THE ENVIRONMENTAL EDUCATION TASK FORCE

Early on, efforts to incorporate EE into Washington's schools captured the interest of a small but growing group of people outside the educational community. They were associated with state and federal agencies, public utilities, industry and private organizations with a vital interest in the promotion of environmental quality, a stable economy and a safe, secure energy supply. Their daily operations required them to inform the public about their organizations' roles in natural resource management, and they saw the importance of environmental education in preparing Washington's citizens to take an active part in making resource-related decisions.

Working individually and cooperatively with the SPI's office and local educators, these groups contributed whatever personnel and materials they could afford to enhance environmental education in Washington. As state and local school funding has become increasingly unavailable, this support has taken on added importance, as well as influence.

Although these organizations are often cast in adversarial roles in environmental matters, they share similar public education and people management problems, as well as a belief that proper management of Washington's natural resources requires an informed citizenry. The recognition of their common educational concerns has made it possible for representatives of these groups to cooperate in supporting the EE efforts of state and local educators.

Representatives from these groups provided insight as members of the Environmental Education Task Force were appointed by the Superintendent of Public Instruction and charged by the legislature with two tasks:

(1) Define what an effective EE program should teach Washington public school students; that is, to define "an environmentally literate Washington citizen."

The purpose of this directive is to help make up for the lack of a clear definition of "environmental education" in WAC 180-56-026, and thereby help provide local school districts with a standard against which to measure their EE programs. The definition presented in this report is based on long hours of discussion and research into similar definitions used by other states, environmental organizations, corporations and agencies. The second task contained in the legislative charge was:

(2) Ascertain the status of environmental education in Washington, with a view toward determining what is needed to help schools better carry out their EE mandate.

To carry out this part of its directive, the task force conducted a survey of local Washington school districts. The analysis of the status of environmental education, and recommendations for improving it, are based on the survey results (see Appendix A for a copy of the survey instrument, and Appendix B for survey results). The definition of an environmentally literate Washington citizen was developed by the task force based on the 1976 "Environmental Education Guidelines," and is contained in the following four statements:

AN ENVIRONMENTALLY LITERATE WASHINGTON CITIZEN will:

I. **have a basic understanding of the components of the environment and their interactions. This understanding includes knowledge of:**

-- natural resources, wildlife and methods of their conservation;

-- principles of ecology, such as biological and geological organization, natural cycles, energy relationships, population dynamics and change;

-- the intensifying human impact on the natural world.

II. **value the environment as the basis of our physical lives, our economy and our emotional well-being.**

This valuing includes awareness that:

-- human health depends on the health of the environment;

-- human wealth springs ultimately from the creative use and aesthetic appreciation of natural resources;

-- contemplation of nature's intricacy and beauty brings intellectual fascination, tranquility and creative inspiration.

III. **understand that personal choice affects environmental quality.**

This understanding includes knowing ways individuals can take responsibility for maintaining environmental health.

IV. **know how citizens can act cooperatively on behalf of the environment.**

This knowledge includes the willingness to participate in community and political resolution of environmental issues.

SURVEY OF ENVIRONMENTAL EDUCATION IN WASHINGTON SCHOOL DISTRICTS

To assess the status and needs of environmental education in Washington, the environmental education task force developed a survey questionnaire to be sent to the state's school districts. The questionnaire itself, is included as Appendix A. A tally of the responses to each question is included as Appendix B.

Procedure

The questionnaire begins with a working definition of "environmental education," to which respondents were asked to refer while filling out the four-page questionnaire. Questions were designed to determine the following information:

1) whether the respondent's district offers any form of environmental education, and if so, to what extent and at what grade levels;

2) whether the district faces any obstacles in its attempts to offer environmental education, and if so, to identify them;

3) what traditional subjects environmental education is integrated into in the district curriculum;

4) what kinds of topics are dealt with in the district's EE programs;

5) what agencies and organizations support the district's EE program with materials, facilities, training, people or funds;

6) what standard curriculum materials and programs the district's teachers use to teach environmental concepts; and

7) what kinds of EE services, materials and opportunities the respondent would like to see provided to his or her district.

The survey was mailed, along with a cover letter and a self-addressed, stamped envelope, to curriculum directors in all 298 Washington school districts. About one-fourth of these returned the completed questionnaire by mail. No doubt this response rate would have been higher if the respondents had been given more time; delays in mailing the questionnaires unfortunately resulted in respondents' having only a week or less to meet the deadline for returning them.

To get a better sample, task force members followed up the mailing with telephone calls to about twenty randomly selected districts that had not responded initially, and either interviewed them and filled out questionnaires for them, or convinced them to complete and return the questionnaires themselves. A comparison of the results from the initial returns with those of the follow up showed substantial consistency of results. It was concluded therefore that the task force had obtained a valid sample of the status of EE in the school districts of the state. The

consistency of results allowed for all returns to be combined, bringing the total number of completed questionnaires to 109--about 37 percent of all the districts in the state.

Although the task force members considered they had obtained a valid sample of the school districts, they felt it important to determine further whether those who responded to the survey were truly representative of all the state's school districts. They wanted to ensure, to the extent possible, that the respondents did not include a disproportionate number of districts which had an EE program or were biased toward environmental education.

A random selection of districts was contacted from among the 189 that had not responded to the survey. In each case, they were asked: 1) if the district had an EE program, and 2) why the questionnaire had not been returned.

Of 18 district representatives contacted, half said their districts offer environmental education, and half said their districts do not offer it. Of the reasons given for not returning the questionnaire, none were determined to indicate any bias which might affect the survey results.

As a result, the task force felt confident in viewing the 109 survey responses as a representative sample. The members believe it provides a reasonable basis for drawing conclusions about the status of environmental education in Washington and for their recommendations to improve it.

Analysis

1) Most of the 109 districts that responded to the survey reported having an EE program, but relatively few had student learning objectives (SLOs) in place.

2) In districts where environmental concepts were taught, they were most commonly integrated into the traditional science, social studies and health classes, rather than being taught in stand-alone EE courses. Reflecting the context of the subject areas in which they were taught, responses also indicated that environmental principles were taught in a way that stressed such subjects as biology, energy, natural resources and wildlife.

   At the same time, there seemed to be a lack of emphasis on such issues as toxic chemicals, waste management, urban and global environmental problems, and economics. These environmental issues are of the highest priority to our society and preparing students to take an active part in dealing with them should be a major objective of our educational system. That they receive little emphasis in current EE programs implies that our schools are not sufficiently responsive to the public's most urgent environmental concerns.

3) The diversity of EE topics taught to students increased with grade level.

4) State government--including SPI and the natural resource agencies--provided the bulk of EE resources to local school districts, frequently by way of educational service districts (ESDs). Most resources took the form of 1) programs and materials, and 2) people and training.

The most widely used EE programs were high-quality, interdisciplinary, well-budgeted for dissemination efforts, and provided at little cost to school districts. But, most of all, they were "marketed" aggressively--usually by local representatives who were closely identified with the programs. Some otherwise high-quality programs were used less than they could be, either because not enough can be printed to meet demand, or because they are not widely known by local educators.

5) Most of the respondents indicated lack of money, materials and time as being the primary obstacles to an effective EE program. The most commonly perceived needs were: money, curriculum materials and teacher training.

In many cases, funding was lacking for such things as transportation for field trips, or for conducting outdoor schools. But, in addition, there is no doubt a relationship between districts reported need for funds and difficulties in obtaining EE curriculum materials and teacher training. Yet, as noted under (4) above, state agencies provide both curriculum materials and teacher training in environmental education, which the districts that use them perceive as being of uniformly high quality. These resources are often overlooked due to lack of "marketing," or cannot be provided in quantities sufficient to meet the districts' needs.

In addition, some resource agency representatives on the task force indicated that with proper funding, resources and legislative support, their ability to assist in providing environmental education opportunities could be greatly enhanced. The State Parks and Recreation Commission could, for example, coordinate interpretive services on school field excursions to selected park facilities, with the object of illustrating natural forest processes in action.

Finally, some districts identified special needs. Small districts, for example, lack the personnel, facilities and funding available in larger districts. Some respondents mentioned "special" student populations, including those with students from minority ethnic groups. A few suggested the possibility of combining resources with other small districts in order to offer effective EE programs.

6) When they were asked how effectively they thought Washington's current EE programs prepare students to deal with contemporary issues, the preponderance of responses indicated this effectiveness to be mediocre.

RECOMMENDATIONS

In order that local schools will have a more accurate understanding of environmental education, which will in turn be reflected in their written policies and student learning objectives:

1) Provisions of WAC 180-56-230 should be broadened to include a definition of environmental literacy, such as the one developed for this report.

2) Provisions of RCW 28A.05.010 should be broadened to require environmental education to be offered to elementary students.

   At present, state EE requirements apply only to the secondary grades. A majority of districts surveyed teach at least some environmental concepts in the elementary grades, primarily in cases where they mesh with the subject content of social studies, science and health classes. However, the survey results also show that few district EE programs deal with subjects that would help prepare students for a future role in dealing with the most critical and pressing environmental issues--toxic chemicals, waste management, and urban and global environmental problems.

   In this regard, the school system lags far behind society's needs, as expressed in most earlier surveys on this subject. A definition of environmental literacy that stresses these subject areas would provide the state's educators with an important tool to overcome this shortcoming.

3) Legislation should be adopted to formalize cooperation among educators at the state and local levels in both the public and private sectors in the development of effective EE programs.

   Representatives of state natural resource agencies, the SPI's office and local school districts have increasingly worked together in EE matters during recent years. However, the relationship remains informal and depends largely on the personal commitment of the individuals involved. By directing that the agencies continue this kind of cooperation through task forces and cooperative programs, the legislature can formalize and thereby help perpetuate their efforts.

4) Funding should be provided to allow the impact of existing environmental education programs to reach their potential; the areas of curriculum materials and teacher training should be emphasized.

   High-quality EE programs and curriculum materials, as well as teacher training in their use, are available from the SPI's Environmental Education Office and from state natural resource agencies at little or no cost to school districts.

The survey shows that these existing programs can potentially meet the districts' perceived environmental education needs. But state agencies require adequate funds and personnel to "market" them, make them available to teachers along with training and ensure sufficient quantities to meet the districts' demand for them.

Local school districts also need funding to help meet costs of inservice teacher training in environmental education and for such EE-related activities as outdoor schools and field trip transportation.

5) The state's environmental education guidelines should be updated to reflect the findings of the present survey.

6) The State Board of Education should be charged to mandate the inclusion of environmental education for initial and continuing teacher certification.

APPENDIX A

SURVEY INSTRUMENT AND COVER LETTER

Environmental Education Task Force

Washington State Department of Agriculture

Washington State Audubon Society

Washington State Department of Ecology

Washington Forest Protection Association

Washington State Department of Game

Washington State Department of Natural Resources

Washington State Parks and Recreation Commission

Washington State Superintendent of Public Instruction

October 2, 1985

Dear Curriculum Director:

Recent public opinion polls have told us time and again that one of the most pervasive concerns of northwest citizens relates to our environment. Water quality, natural resources, energy, population growth and hazardous waste are but a few of the subjects Washington citizens are reflecting over.

Based on these concerns a task force of environmental educators was formed at the request of Washington State legislators. The legislature has asked that a survey be conducted to determine the status of environmental education in our state. Enclosed you will find a survey instrument and a self-addressed envelope. Please complete the survey and return it to us by October 16.

Interdisciplinary environmental education in our schools is playing an ever increasing part in preparing young people for their role in making responsible decisions in these areas.

Our principle objective in asking you to complete this survey is to determine how we can best serve you. We also intend to make decisions based on the survey that will lead to more effective environmental education in the future.

Thank you for taking your time on this important subject.

Yours Sincerely,

Tony Angell
Supervisor: Env. Edu.
N.W. Section

WASHINGTON

ENVIRONMENTAL EDUCATION SURVEY

SCHOOL DISTRICT_____

ADDRESS_____

NAME OF RESPONDENT_____

TELEPHONE # (___)_____

So that all respondents will treat the questions about conservation and environmental education in the same way, the following definition should be used throughout the questionnaire:

Environmental education is that component of education that aims to provide all four of the following:

a) A basic understanding of how the environment works,

b) Experience in valuing environmental quality,

c) Experience in how personal choices and actions affect environmental quality,

d) Experience in methods of enacting community responsibility, in order to deal effectively with contemporary environmental issues.

1. Is your school district presently offering or developing one or more kinds of environmental education programs dealing with social, cultural, economic, political, and/or scientific environmental studies?

Yes _____ No _____

2. Which of these restrictions do you consider to be the major obstacle on your district's ability to develop and carry out an environmental education program: (Check all that apply)

____ Lack of interest
____ Lack of funds
____ Teacher contracts
____ Transportation
____ Curriculum restrictions
____ Staff qualifications in environmental education
____ Length of school day
____ Lack of planning time
____ Lack of curriculum materials
____ Other priorities (Identify)
_____
_____
____ Lack of facilities
____ Lack of mandatory statute or policy
____ Lack of inservice teacher training
____ Lack of community support
____ Other reasons (Identify)
_____
_____

3. At what level and to what extent does your school district emphasize the following topics in your environmental education activities? (Mark each box that applies)

	Primary	Inter-mediate	Middle/ Junior High	High School
Biology/Ecology				
Earth Science/Physical Geography				
Business/Commerce/Economics				
Aesthetics/Environmental Quality				
Urban Areas/Built Environment				
Wilderness Areas				
Agriculture/Food Supply				
Transportation				
Energy				
Water Quality/Supplies				
Waste Management				
Air Quality				
Public Health				
Architecture/Design				
Outdoor Education/Resident Outdoor School				
Nature Centers/Parks				
Conservation Education				
Marine/Aquatic Education				
Wildlife				
Global Environmental Problems				
Nuclear War				
Toxic Chemicals				
Political Ecology				
Soil				
Social Studies				
Humanities				
Interdisciplinary Topics				
Fisheries				
Forestry				
Natural Resources				
Plants				

4. In which basic education content areas have teachers in your district integrated environmental education topics in such a way as to be consistent with the definition of environmental education on page 1? (Mark each box that applies)

	Primary	Inter-mediate	Middle/ Junior High	High School
Social Studies				
Mathematics				
Science				
Language Arts				
The Arts				
Health				
Physical Ed.				

5. How do the following groups provide resources or other support to your district's environmental education program? (Mark each box that applies)

	Programs & Materials	Facilities	Training	People	$
Federal Government					
State Government					
Local Government					
Colleges/Universities					
Supt. of Public Instruction					
ESDs					
Business/Industry					
Environmental/ Organizations					
Service Organizations					
Philanthropic Organizations					
Sporting/Recreational Organizations					
Media Sources					
Private Individuals					
Other (Please List)					

6a. Does your district have an official written policy on instruction for environmental education?

Yes _____ No _____

6b. Are students learning objectives for environmental education (SLOs) in place?

Yes _____ No _____

7. Have your teachers used any of the following environmental education programs or attended workshops offered by them? (Check all that apply)

____ Agriculture in the Classroom
____ A Way With Waste
____ Class Project
____ Clean Water, Streams and Fish
____ Coastal Zone Studies
____ Conserving Soils
____ Encounter With the Northwest Environment
____ Energy and Man's Environment
____ Energy Food and You
____ For Sea (Poulsbo Marine Science Center)
____ Investigating Your Environment
____ O.B.I.S.
____ ORCA
____ Population Task Cards
____ Project Learning Tree
____ Project LIFE
____ Project WILD
____ SLEUTH
____ Audubon Adventures
____ Ranger Rick
____ Other

8. What specific environmental education services, programs, materials, facilities or opportunities not currently available would you like to see provided? (Check all that apply)

____ Teacher training
____ Curriculum materials
____ Facilities
____ Personnel
____ Transportation
____ Funds
____ Time
____ Mandatory Statutes
____ Teaching kits
____ Films/Books/Games
____ Teacher recognition
____ Curriculum development
____ Other (Describe)
_____

9. How effectively do current environmental education programs in Washington prepare students to deal with contemporary environmental issues? (Mark a point on the line that represents your opinion)

0 1 2 3

Not adequate-- not effective

Very effective-- very adequate

10. Please use remaining space or backs of pages to provide comments about your environmental education program that you think we need to know about.

Thank you for your assistance. Please return this completed questionnaire in the stamped, self addressed envelope provided, or, send it to: E/E Survey, c/o WFPA, 711 Capitol Way, Suite 608, Olympia, WA 98501.

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WASHINGTON

ENVIRONMENTAL EDUCATION SURVEY

SCHOOL DISTRICT_____

ADDRESS_____

NAME OF RESPONDENT_____

TELEPHONE # (___)_____

So that all respondents will treat the questions about conservation and environmental education in the same way, the following definition should be used throughout the questionnaire:

Environmental education is that component of education that aims to provide all four of the following:

a) A basic understanding of how the environment works,

b) Experience in valuing environmental quality,

c) Experience in how personal choices and actions affect environmental quality,

d) Experience in methods of enacting community responsibility, in order to deal effectively with contemporary environmental issues.

1. Is your school district pr sently offering or developing one or more kinds of environmental education programs dealing with social, cultural, economic, political, and/or scientific environmental studies?

Yes _____ No _____

2. Which of these restrictions do you consider to be the major obstacle on your district's ability to develop and carry out an environmental education program: (Check all that apply)

____ Lack of interest
____ Lack of funds
____ Teacher contracts
____ Transportation
____ Curriculum restrictions
____ Staff qualifications in environmental education
____ Length of school day
____ Lack of planning time
____ Lack of curriculum materials
____ Other priorities (Identify)
_____
_____
____ Lack of facilities
____ Lack of mandatory statute or policy
____ Lack of inservice teacher training
____ Lack of community support
____ Other reasons (Identify)
_____
_____

3. At what level and to what extent does your school district emphasize the following topics in your environmental education activities? (Mark each box that applies)

	Primary	Inter-mediate	Middle/ Junior High	High School
Biology/Ecology				
Earth Science/Physical Geography				
Business/Commerce/Economics				
Aesthetics/Environmental Quality				
Urban Areas/Built Environment				
Wilderness Areas				
Agriculture/Food Supply				
Transportation				
Energy				
Water Quality/Supplies				
Waste Management				
Air Quality				
Public Health				
Architecture/Design				
Outdoor Education/Resident Outdoor School				
Nature Centers/Parks				
Conservation Education				
Marine/Aquatic Education				
Wildlife				
Global Environmental Problems				
Nuclear War				
Toxic Chemicals				
Political Ecology				
Soil				
Social Studies				
Humanities				
Interdisciplinary Topics				
Fisheries				
Forestry				
Natural Resources				
Plants				

4. In which basic education content areas have teachers in your district integrated environmental education topics in such a way as to be consistent with the definition of environmental education on page 1? (Mark each box that applies)

	Primary	Inter-mediate	Middle/ Junior High	High School
Social Studies				
Mathematics				
Science				
Language Arts				
The Arts				
Health				
Physical Ed.				

5. How do the following groups provide resources or other support to your district's environmental education program? (Mark each box that applies)

	Programs & Materials	Facilities	Training	People	$
Federal Government					
State Government					
Local Government					
Colleges/Universities					
Supt. of Public Instruction					
ESDs					
Business/Industry					
Environmental/ Organizations					
Service Organizations					
Philanthropic Organizations					
Sporting/Recreational Organizations					
Media Sources					
Private Individuals					
Other (Please List)					

6a. Does your district have an official written policy on instruction for environmental education?

Yes _____ No _____

6b. Are students learning objectives for environmental education (SLOs) in place?

Yes _____ No _____

7. Have your teachers used any of the following environmental education programs or attended workshops offered by them? (Check all that apply)

____ Agriculture in the Classroom
____ A Way With Waste
____ Class Project
____ Clean Water, Streams and Fish
____ Coastal Zone Studies
____ Conserving Soils
____ Encounter With the Northwest Environment
____ Energy and Man's Environment
____ Energy Food and You
____ For Sea (Poulsbo Marine Science Center)
____ Investigating Your Environment
____ O.B.I.S.
____ ORCA
____ Population Task Cards
____ Project Learning Tree
____ Project LIFE
____ Project WILD
____ SLEUTH
____ Audubon Adventures
____ Ranger Rick
____ Other

8. What specific environmental education services, programs, materials, facilities or opportunities not currently available would you like to see provided? (Check all that apply)

____ Teacher training
____ Curriculum materials
____ Facilities
____ Personnel
____ Transportation
____ Funds
____ Time
____ Mandatory Statutes
____ Teaching kits
____ Films/Books/Games
____ Teacher recognition
____ Curriculum development
____ Other (Describe)
_____

9. How effectively do current environmental education programs in Washington prepare students to deal with contemporary environmental issues? (Mark a point on the line that represents your opinion)

0 1 2 3

Not adequate-- not effective

Very effective-- very adequate

10. Please use remaining space or backs of pages to provide comments about your environmental education program that you think we need to know about.

Thank you for your assistance. Please return this completed questionnaire in the stamped, self addressed envelope provided, or, send it to: E/E Survey, c/o WFPA, 711 Capitol Way, Suite 608, Olympia, WA 98501.

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APPENDIX B

WASHINGTON ENVIRONMENTAL EDUCATION TASK FORCE

SURVEY RESPONSES AND ANALYSIS

1. Is your school district presently offering or developing one or more kinds of environmental education programs dealing with social, cultural, economic, political, and/or scientific environmental studies?

	Number of Responses	Percentage of Total responses
Yes	83	77.0
No	24	21.1
Neither	2	1.8

2. Which of these restrictions do you consider to be the major obstacle on your district's ability to develop and carry out an environmental education program: (Check all that apply)

(Ranked by frequency of selection)

Number of Responses		Percentage of Total responses
54	Lack of funds	49.5
39	Lack of curriculum materials	35.8
36	Lack of planning time	33.0
34	Curriculum restrictions	31.2
34	Staff qualifications in env. ed.	31.2
33	Length of school day	30.3
26	Lack of inservice teacher training	23.9
25	Other priorities*	22.9
22	Transportation	20.2
17	Lack of mandatory statute or policy	15.6
15	Other reasons**	13.8
14	Lack of facilities	12.8
14	Lack of interest	12.8
11	Teacher contracts	10.1

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*Most of those who checked off "other priorities" simply indicated that they were referring to other courses. Of these, only a few were specific, mentioning basic education, other electives and state-required courses.

**The most common reasons were: not enough time in the school day, not enough money, not enough teachers, school district too small, competition from "special interest" subjects, lack of teacher initiative, local politics.

3. At what level and to what extent does your school district emphasize the following topics in your environmental education activities? (Mark each box that applies)

(Ranked by frequency of selection for all grade levels)

Number of Responses	Topics
260	Social Studies
258	Biology/Ecology
252	Plants
234	Earth Science/Physical Geography
228	Energy
217	Natural Resources
197	Agriculture/Food Supply
196	Wildlife
195	Water Quality/Supplies
186	Soil
184	Conservation Education
183	Aesthetics/Environmental Quality
162	Forestry
161	Air Quality
159	Public Health
148	Humanities
141	Wilderness Areas
135	Marine/Aquatic Education
131	Fisheries
121	Global Environmental Problems
121	Toxic Chemicals
117	Business/Commerce/Economics
115	Nature Centers/Parks
114	Transportation
113	Interdisciplinary Topics
107	Waste Management
94	Outdoor Education/Resident Outdoor School
93	Nuclear War
71	Urban Areas/Built Environment
57	Political Ecology
48	Architecture/Design
4,798	

3. (continued)

(Ranked by frequency of selection for primary levels)

Number of Responses	Topics
60	Social Studies
54	Plants
45	Biology/Ecology
45	Wildlife
42	Energy
41	Natural Resources
37	Agriculture/Food Supply
34	Aesthetics/Environmental Quality
34	Conservation Education
33	Nature Centers/Parks
32	Earth Science/Physical Geography
28	Transportation
28	Public Health
27	Soil
25	Humanities
24	Water Quality/Supplies
24	Wilderness Areas
21	Forestry
21	Marine/Aquatic Education
20	Air Quality
20	Fisheries
20	Interdisciplinary Topics
14	Business/Commerce/Economics
10	Outdoor Education/Resident Outdoor School
9	Waste Management
8	Global Environmental Problems
8	Toxic Chemicals
8	Urban Areas/Built Environment
3	Nuclear War
2	Architecture/Design
1	Political Ecology
778	

3. (continued)

(Ranked by frequency of selection for intermediate grades)

Number of Responses	Topics
66	Social Studies
63	Plants
58	Conservation Education
57	Energy
56	Natural Resources
55	Biology/Ecology
54	Water Quality/Supplies
54	Wildlife
52	Earth Science/Physical Geography
50	Aesthetics/Environmental Quality
47	Outdoor Education/Resident Outdoor School
46	Wilderness Areas
44	Agriculture/Food Supply
43	Forestry
43	Soil
40	Nature Centers/Parks
39	Air Quality
36	Public Health
35	Fisheries
31	Humanities
31	Marine/Aquatic Education
26	Transportation
25	Interdisciplinary Topics
25	Waste Management
20	Global Environmental Problems
16	Business/Commerce/Economics
15	Toxic Chemicals
12	Urban Areas/Built Environment
9	Nuclear War
4	Architecture/Design
2	Political Ecology
1,154	

3. (continued)

(Ranked by frequency of selection
for middle/junior high grades)

Number of Responses	Topics
81	Earth Science/Physical Geography
72	Biology/Ecology
68	Social Studies
64	Energy
62	Plants
59	Water Quality/Supplies
58	Natural Resources
58	Soil
49	Agriculture/Food Supply
48	Air Quality
47	Aesthetics/Environmental Quality
47	Public Health
46	Conservation Education
45	Wildlife
43	Humanities
42	Forestry
37	Wilderness Areas
35	Fisheries
35	Interdisciplinary Topics
33	Marine/Aquatic Education
31	Global Environmental Problems
30	Waste Management
28	Toxic Chemicals
27	Transportation
25	Business/Commerce/Economics
24	Nature Centers/Parks
22	Nuclear War
22	Outdoor Education/Resident Outdoor School
17	Urban Areas/Built Environment
14	Political Ecology
11	Architecture/Design
1,280	

3. (continued)

(Ranked by frequency of selection for high school grades)

Number of Responses	Topics
86	Biology/Ecology
73	Plants
70	Toxic Chemicals
69	Earth Science/Physical Geography
67	Agriculture/Food Supply
66	Social Studies
65	Energy
62	Business/Commerce/Economics
62	Global Environmental Problems
62	Natural Resources
59	Nuclear War
58	Soil
58	Water Quality/Supplies
56	Forestry
54	Air Quality
52	Aesthetics/Environmental Quality
52	Wildlife
50	Marine/Aquatic Education
49	Humanities
48	Public Health
46	Conservation Education
43	Waste Management
41	Fisheries
40	Political Ecology
34	Urban Areas/Built Environment
34	Wilderness Areas
33	Interdisciplinary Topics
33	Transportation
31	Architecture/Design
18	Nature Centers/Parks
15	Outdoor Education/Resident Outdoor School
1,586	

4. In which basic education content areas have teachers in your district integrated environmental education topics in such a way as to be consistent with the definition of environmental education on page 1? (Mark each box that applies)

(Ranked by frequency of selection for all grade levels)

Number of Responses	Topics
307	Science
227	Social Studies
138	Health
89	Language Arts
78	The Arts
46	Physical Education
42	Mathematics
927	

(Ranked by frequency of selection for primary grade levels)

Number of Responses	Topics
64	Science
49	Social Studies
23	Health
19	Language Arts
18	The Arts
9	Mathematics
6	Physical Education
188	

(Ranked by frequency of selection for intermediate grade levels)

Number of Responses	Topics
82	Science
62	Social Studies
34	Health
26	Language Arts
22	The Arts
14	Mathematics
11	Physical Education
251	

4. (continued)

(Ranked by frequency of selection
for middle/junior high grade levels)

Number of Responses	Topics
78	Science
56	Social Studies
42	Health
25	Language Arts
18	The Arts
14	Physical Education
10	Mathematics
243	

(Ranked by frequency of selection
for high school grade levels)

Number of Responses	Topics
83	Science
60	Social Studies
39	Health
20	Language Arts
19	The Arts
15	Physical Education
9	Mathematics
245	

5. How do the following groups provide resources or other support to your district's environmental education program? (Mark each box that applies)

(Ranked by frequency of selection)

Number of Responses	Group/Organization
148	State Government
115	ESDs
113	Federal Government
113	Supt. of Public Instruction
81	Colleges/Universities
75	Local Government
72	Business/Industry
72	Environmental Organizations
47	Private Individuals
41	Media Sources
35	Service Organizations
33	Sporting/Recreational Organizations
13	Other*
6	Philanthropic Organizations
964	

Number of Responses	Resources/Support Provided
408	Programs & Materials
216	Personnel
170	Teacher Training
92	Facilities
78	Funds
964	

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*Responses included Association of Washington School Principals, which operates Cispus Environmental Education Center in Randle; the U.S. Air Force (survival school); Puget Power; and Washington Natural Gas.

6a. Does your school district have an official written policy on instruction for environmental education?

For all respondents:

	Number of Responses	Percentage of Total responses
Yes	18	16.5
No	87	79.8
Neither	4	3.6

For respondents who answered "yes" to question (1):

	Number of Responses	Percentage of Total responses
Yes	18	21.4
No	65	77.3
Neither	1	1.2

6b. Are students' learning objectives for environmental education (SLOs) in place?

	Number of Responses	Percentage of Total responses
Yes	54	49.5
No	53	48.6
Neither	2	1.8

For respondents who answered "yes" to question (1):

	Number of Responses	Percentage of Total responses
Yes	49	58.3
No	35	41.7

7. Have your teachers used any of the following environmental education programs or attended workshops offered by them? (Check all that apply)

Number of Responses	Programs used/workshops attended
52	Ranger Rick
51	Project Learning Tree
43	Project WILD
41	Energy and Man's Environment
29	Energy, Food and You
23	Clean Water, Streams and Fish
22	A Way With Waste
16	Agriculture in the Classroom
15	Conserving Soils
14	ORCA
13	Project LIFE
11	For Sea (Poulsbo Marine Science Center)
10	Investigating Your Environment
10	O.B.I.S.
9	Coastal Zone Studies
8	Audubon Adventures
7	Encounter With the Northwest
7	Other
5	Class Project
3	SLEUTH
1	Population Task Cards

(Descriptions of many of these programs may be found in Appendix C)

8. What specific environmental education services, programs, materials, facilities or opportunities not currently available would you like to see provided? (Check all that apply)

Number of Responses	Desired services, programs, etc.
69	Funds
65	Curriculum materials
64	Teacher training
53	Teaching kits
51	Time
46	Curriculum development
46	Films/Books/Games
35	Personnel
35	Transportation
28	Facilities
28	Teacher recognition
16	Mandatory statutes
8	Other*

9. How effectively do current environmental education programs in Washington prepare students to deal with contemporary environmental issues? (Mark a point on the line that represents your opinion)

Approximate distribution of responses:

	(1)	(4)	(44)	(8)	(40)	(3)	(1)
Number of responses:							
Scale:	0	0.5	1	1.5	2	2.5	3

Not adequate-- not effective

Very effective-- very adequate

No response: (8)
Average: 1.47

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*Respondents mentioned local intergovernmental cooperation, sharing of resources by small school districts, more publicity about the need for environmental education, district commitment, guidelines, model student learning objectives (SLO's), SPI-sponsored teacher training, incorporation of environmental education into science curriculum.

10. Please use remaining space or backs of pages to provide comments about your environmental education program that you think we need to know about.

General comments:

"(Environmental education) helps students understand the relationship between environment and quality of life and survival."

"Anything we can do is important. The more we can develop the better off we are."

"We have a long way to go to provide a really adequate total program. We have concentrated mostly on outdoor education and have received good support from our community."

"For native American kids, environmental education may be of utmost importance for motivation and learning."

Pertaining to the need to broaden EE requirements:

"It is needed. Should be included in ongoing K-12 science or social studies."

"Our environment should be top priority in education, but with the state mandates, federal mandates, limited funds, increased expectations on schools due to societal recessions, it is not feasible to add more to the curriculum."

"Curriculum time is a big issue--a limit of time and what can be taught."

(Re-implementing environmental education programs) "...problems due to continuity in staffing...Good programs fall flat with changes in personnel...problem getting them built into basic education so they may continue."

"I feel it is very important to teach...(However) where do you put it in the curriculum? What would suffer if environmental education is focused upon?

"There is no district-wide curriculum for environmental education at this time. Those efforts being made in this area are due to the efforts of environmentally aware teachers or persons who are continuing to use activities begun prior to 1979 (when the person responsible for overseeing the district's environmental education program retired and was not replaced)...Environmental education is not a high priority designee for the use of limited district resources at this time."

"The only practical approach in my opinion is to re-evaluate what are the essentials in education and begin to limit or select on a priority basis just what schools can practically handle and do a good job."

"Basic curriculum areas are a priority--however, environmental education may be integrated (into them)."

"We had an elective Environmental Science class and an Outdoor Education class that have been abandoned for lack of district support. (We) are essentially interested in teaching the classes if they could be fit into the curriculum."

"We need a statewide integration (of environmental education into the curriculum)...We have 1500 students waiting to use camp. (This) suggests a good program and people willing to pay for it. Students get natural sciences, respect for their environment. They walk out of camp with a new perspective on how to interact with others...(many students say) Waskowitz is the most important experience in their Highline experience...(Money should be provided) so a district would run a center for other districts."

"I hate mandatory statutes. I would like some recommendations. Update some guidelines on environmental education, rather than statutes; you'll get better cooperation."

"Should be integrated into current program."

"(Environmental education) must be integrated, hands-on, sequential."

"We try to incorporate (environmental education) into other subject areas."

Pertaining to the need for cooperation:

"It is a needed program. There's always room for more support. I'd like to see more connection from outside entities, such as DNR."

"If we had sufficient dollars, we could have a program to serve surrounding school districts because of our location with U.S. Forest Service, Parks. Programs could be offered for surrounding counties as well, simply because of our locale (Darrington) and abundance of natural resources."

Pertaining to the need for funding for EE curriculum materials and teacher training:

"Environmental education is an important priority in the lives of youngsters. What (money) we put into it will affect the quality of our life here, now and in the future."

"My doctoral dissertation--W.S.U., 1974--asked basically the same questions (as the present survey). The conclusions: Until money and time were available, very little emphasis would be given to environmental studies. It is my opinion that little has changed."

"Once we've got a teacher excited (about environmental education), we're on our way."

"(Need) good staff development program...(We) support environmental education...encourage teachers to participate in programs to expand offerings...do not want to see another stand-alone program...would like to see a highly integrated program."

"We need to strengthen the availability of program materials and training in their use."

Other comments:

"We are committed to the following:

1) Curriculum programs that focus initially on the local environment of our surrounding area.
2) The study of environmental issues, not as a separate curriculum, but integrated within our social studies, science and other programs.
3) Promoting a sense of awareness of and responsibility for our fragile environment."

"There are too many things thrust onto us...We're trying to bear down on our current program...If kids show interest...If we saw a big need or concern, we'd do it, but we don't see that need. We're concerned about other priorities, such as shutting down schools, rather than environmental education."

"Not enough time to provide one (environmental education program). Legislature (should) stop giving school days away...185 days changed to 180...district contract for 183."

"All the state can do is require more and more--and then give less money "

APPENDIX C

PROGRAM DESCRIPTIONS

Office of the Superintendent of Public Instruction

Energy Food and You

K-12 interdisciplinary energy education program focusing on forms and sources of energy, with global, national, and regional perspectives. Special attention given to understanding energy through the study of food and nutrition. (conservation of energy)

Clean Water, Streams and Fish

K-12 interdisciplinary program for studying water and water quality through a focus on watersheds and salmon biology. An emphasis on the biological sciences, with consideration of social and economic issues of particular importance in the Pacific N.W.

Coastal Zone Studies

Interdisciplinary middle school program focusing on the physical and biological nature of Puget Sound. Special treatment of the major habitats of Puget Sound, the Ecological communities therein, and the economic resources of importance to Washington users of Puget Sound.

Encounter with the Northwest Environment

Examination of the natural and urban environments of Washington state for grades 5 through high school. The document presents a review of Washington's major ecological communities and considers the levels of use to which human enterprises put them. A separate section examines the major components of the city of Seattle and how they work and function together.

Population Task Cards

A middle school activity program assisting students to develop an understanding of population and the conditions influencing its growth, and related demands for resources.

Sleuth

Educational activities for 5th through high school on the nature of and the handling of household hazardous waste.

Project Life

Interdisciplinary elementary (K-5) curriculum with school yard activities and learning games aimed at developing a greater understanding of one's environment and the influences on it.

PROGRAMS AVAILABLE FROM OTHER SOURCES

ORCA (Ocean Related Curriculum Activities)

The ORCA materials provide hands-on interdisciplinary marine studies activities packets for teachers of kindergarten through grade 12 students. The 16 ORCA books cover a variety of topics including whales, salmon, beaches, and tides. Each activity packet consists of multiple lessons focused on specific marine and environmental concepts and learning objectives. Detailed procedures outline exactly how to teach high quality activities using readily available materials. Available through the Pacific Science Center, 200 Second Avenue North, Seattle, WA 98109.

Ranger Rick

A monthly, nature magazine written for 6-12 year old children. Contents include: animals, crafts, photography, adventure stories, games and puzzles. Subscriptions cost $12.00/year from: National Wildlife Federation, 8925 Leesburg Pike, Vienna, VA 22180.

CLASS Project

A supplementary environmental curriculum for junior high or middle school grades. It emphasizes investigation and hands-on approaches to environmental issues such as: energy use, forest/watershed management, hazardous waste, wetlands, and wildlife habitat management. A list of additional resources is included. Additional information is available from: National Wildlife Federation, 8925 Leesburg Pike, Vienna, VA 22180.

Project WILD

A K-12 interdisciplinary, supplementary environmental and conservation education program available to public and private schools in Washington. The elementary curriculum guide contains activities for: awareness and appreciation; diversity of wildlife values; ecological principles; management and conservation; people, culture and responsible human actions. The secondary curriculum guide contains activities for: language arts; science; social studies; and mathematics. For information about a Project WILD workshop, contact: Larry Broder, Washington Department of Game, 16018 Mill Creek Blvd., Mill Creek, WA 98012. (206) 775-1311.

Agriculture in the Classroom

"Ag in the Classroom" programs in the state of Washington are developed by the Washington Agricultural Awareness Council. With support from the Washington State Department of Agriculture, WAAC was organized in 1983 to better inform both students and educators about the overall importance of Washington's agriculture to the state, nation and world economies. Teacher-training workshops titled "Why Ag in My Classroom?" incorporate field trips, speakers, and tools such as computer programs in providing educators with up-to-date agricultural information and ways of integrating the subject into classroom curriculum. The program is available from the Washington Agricultural Awareness Council, P.O. Box 5683, Lacey, WA 98503.

OBIS

Outdoor Biology Instructional Strategies is a program with a variety of Outdoor Activities designed primarily for 10-15 year olds. Activities emphasize interaction of organisms with each other and their environments. Examples of various strategies includes games, simulations, craft activities, experiments and analyses of data. Activities are in an easy to follow two page folio format. One-hundred activities available. Developed at the Lawrence Hall of Science in Berkeley, CA, OBIS is now available through Delta Education, Inc. Address: Box M, Building 4, Factory Street, Nashua, NH 03060.

National Energy Foundation (N.E.F.)

Formerly Energy and Man's Environment, N.E.F. develops and provides energy education materials and instructional programs to help educators incorporate energy concepts into their curricula. N.E.F. education programs are based on a knowledge that teachers will integrate curriculum materials into classrooms more confidently and effectively if they are trained in the proper implementation of those materials. Address: 22810 Woods Creek Road, Snohomish, WA 98290.

Project Learning Tree (PLT)

PLT is a supplementary curriculum which provides curriculum guides and teacher training for this K-12 program. PLT emphasizes forests, trees, and the responsibilities of personal action and decision making. PLT is available from the Washington Forest Protection Association, 600 N. Capitol Blvd., Olympia, WA 98504.

Away With Waste

This program enables teachers to teach about litter, solid waste, recycling, and general environmental topics. A K-12 supplementary curriculum, it is available from the Washington Department of Ecology, Olympia, WA 98504.

I007L7.00

DR. FRANK B. BROUILLET
Superintendent of Public Instruction

Old Capitol Building, FG-11, Olympia, WA 98504